

# **3-4-50: Chronic Disease Deaths in San Diego County – North Inland Region, 2000-2011**

## **What is 3-4-50?**

Chronic diseases are now the major cause of death and disability worldwide, having surpassed infectious diseases and injuries. This reflects a significant change in diet habits, physical activity levels, and tobacco use.<sup>1</sup> The 3-4-50 concept<sup>2</sup> is defined as three behaviors (poor diet, physical inactivity, and tobacco use) which contribute to four chronic diseases (cancer, heart disease and stroke, type 2 diabetes, and pulmonary diseases such as asthma) that cause over 50 percent of all deaths worldwide. These chronic diseases are important to consider together because they are common causes of disability and death in San Diego County. They are also highly influenced by three unhealthy behaviors; behaviors that cause many cases of the specified chronic conditions that are preventable. In San Diego County in 2007, the 3-4-50 diseases, considered together, cost \$4 billion in direct treatment expenditures.<sup>3</sup>

## **3-4-50 in San Diego County**

From 2000 to 2011, there has been a decrease in the percentage of county deaths due to 3-4-50 chronic diseases, as well as a decrease in the rate of 3-4-50 chronic disease related deaths. In 2000, 63% of all deaths were due to 3-4-50 chronic diseases. By 2011, the percentage had decreased to 54%. In addition, the rate of deaths decreased from 440.6 per 100,000 in 2000 to 347.0 per 100,000 in 2011. Among the Regions, the South Region had the highest percentage of deaths due to 3-4-50 chronic diseases in every year from 2000 to 2011. The rate of death was highest in the East Region for each year from 2000 to 2011. Within the Regions there were considerable differences in the percentage of deaths due to 3-4-50 chronic diseases among the Subregional Areas (SRAs), as well as in death rates. More detailed information is provided in the following tables and graphs.

## Understanding Public Health Data

Within this document, percentages and rates are presented to describe the burden of 3-4-50 chronic diseases in San Diego County.

- A percentage is a way to express how small or large a quantity is relative to another quantity.
- A rate is the number of cases divided by the population, usually multiplied by a constant. For example 987 cases, divided by population of 654,321 would be a rate of 150.8 per 100,000 population. This means for every 100,000 people, 150-151 cases would be expected.

Both measures are provided to give a more balanced look at the burden of 3-4-50 chronic diseases within the county. Percentages, in this case, allow for the comparison of the number of 3-4-50 chronic disease deaths relative to the number of deaths overall. *Percentages are influenced by both the number of 3-4-50 chronic disease deaths and the number of all cause deaths. It is important to keep this in mind when interpreting the data. For example, two Regions could have the same number of 3-4-50 chronic disease deaths, but could have completely different percentages of 3-4-50 chronic disease deaths based on the number all cause deaths in each area.*

	Region A	Region B
Number of Chronic Disease Deaths	50	50
Number of All Cause Deaths	100	80
Percentage of Deaths Due to Chronic Disease	$(50/100) * 100\% = 50\%$	$(50/80) * 100\% = 62.5\%$

To further understand the burden of 3-4-50 chronic disease in the county, rates were calculated to allow for comparison of between Regions, accounting for the size of the each area's population.

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<sup>1</sup> World Health Organization (WHO). "The Global Strategy on Diet, Physical Activity and Health." [http://www.who.int/dietphysicalactivity/media/en/gsf\\_general.pdf](http://www.who.int/dietphysicalactivity/media/en/gsf_general.pdf) (Accessed February 7, 2013).

<sup>2</sup> 3Four50, [www.3four50.com](http://www.3four50.com) (Accessed February 7, 2013).

<sup>3</sup> County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit, "Economic Burden of Chronic Disease" (September 2011).

### 3-4-50 Deaths in San Diego County – North Inland Region, 2000-2011

The following tables and charts display trends in 3-4-50 chronic disease deaths for the North Inland Region of San Diego County.

3-4-50 Death <sup>†</sup> Percentages Among San Diego County Residents - North Inland Region, 2000-2011												
By SRA												
Area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>San Diego County<sup>a</sup></b>	63%	63%	61%	60%	59%	58%	57%	57%	56%	56%	56%	54%
<b>North Inland Region</b>	63%	63%	58%	60%	59%	57%	55%	56%	55%	56%	54%	53%
<b>SRA</b>												
Anza Borrego Springs	66%	64%	70%	62%	61%	57%	62%	73%	69%	64%	55%	53%
Escondido	60%	60%	56%	55%	55%	56%	55%	54%	52%	54%	50%	53%
Fallbrook	66%	66%	60%	62%	61%	59%	54%	58%	54%	55%	56%	51%
North San Diego	64%	64%	59%	62%	62%	57%	55%	58%	54%	55%	51%	52%
Palomar-Julian	77%	69%	72%	77%	49%	59%	56%	70%	69%	70%	65%	62%
Pauma	62%	62%	42%	59%	58%	58%	50%	52%	44%	57%	53%	50%
Poway	63%	63%	58%	61%	58%	60%	54%	53%	56%	52%	54%	52%
Ramona	64%	59%	58%	61%	58%	53%	57%	55%	57%	57%	58%	56%
San Marcos	66%	64%	61%	59%	63%	55%	57%	58%	60%	61%	59%	54%
Valley Center	63%	69%	63%	70%	55%	61%	63%	56%	55%	53%	59%	57%

\* Rates per 100,000 population.

<sup>a</sup>Deaths with unknown Region or SRA are reflected in the county total, but not in the individual categories. Category sums may not add up to county total.

<sup>†</sup> 3-4-50 Deaths include Stroke, Coronary Heart Disease (CHD), Diabetes, COPD, Asthma, and Cancer.

<sup>§</sup> Rates and Percentages not calculated for fewer than 5 events. Rates not calculated in cases where zip code is unknown.

Source: Death Statistical Master Files (CA DPH), County of San Diego, Health & Human Services Agency, Epidemiology & Immunization Services Branch; SANDAG, Current Population Estimates, 10/2012.

Prepared by County of San Diego (CoSD), Health & Human Services Agency (HHSA), Community Health Statistics, 09/24/2013.

3-4-50 Death <sup>†</sup> Rates Among San Diego County Residents - North Inland Region, 2000-2011												
By SRA												
Area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>San Diego County<sup>a</sup></b>	440.6	435.2	402.8	402.7	386.7	373.8	357.8	353.1	347.5	336.6	347.0	347.0
<b>North Inland Region</b>	482.0	471.3	427.6	438.9	418.4	393.7	377.0	363.9	362.7	360.4	370.0	362.7
<b>SRA</b>												
Anza Borrego Springs	1030.3	1321.2	936.0	909.7	1300.7	994.3	1403.8	1371.9	1313.9	724.2	585.6	921.4
Escondido	542.8	540.0	474.5	479.4	455.4	438.1	421.7	386.9	358.5	370.3	393.8	384.2
Fallbrook	559.7	565.3	496.1	536.4	466.2	497.5	437.5	455.2	453.3	410.5	469.3	204.3
North San Diego	563.1	574.4	490.3	519.9	517.8	442.7	397.9	411.6	368.6	391.2	373.6	388.4
Palomar-Julian	387.5	325.4	348.4	511.1	324.6	354.4	331.4	378.2	433.3	284.4	383.0	280.0
Pauma	253.6	322.0	225.2	246.2	203.5	278.7	220.6	248.0	209.4	344.1	268.2	257.3
Poway	297.1	264.5	250.5	259.4	252.2	270.3	247.8	249.3	272.5	241.5	271.1	250.9
Ramona	362.3	346.8	388.2	418.8	335.2	302.5	298.0	280.9	362.0	371.3	364.2	344.3
San Marcos	514.5	480.6	466.2	417.5	435.9	396.0	391.0	359.8	390.8	378.9	379.0	372.6
Valley Center	378.1	326.6	340.7	396.6	308.4	227.1	327.0	259.5	299.4	359.9	312.9	302.7

\* Rates per 100,000 population.

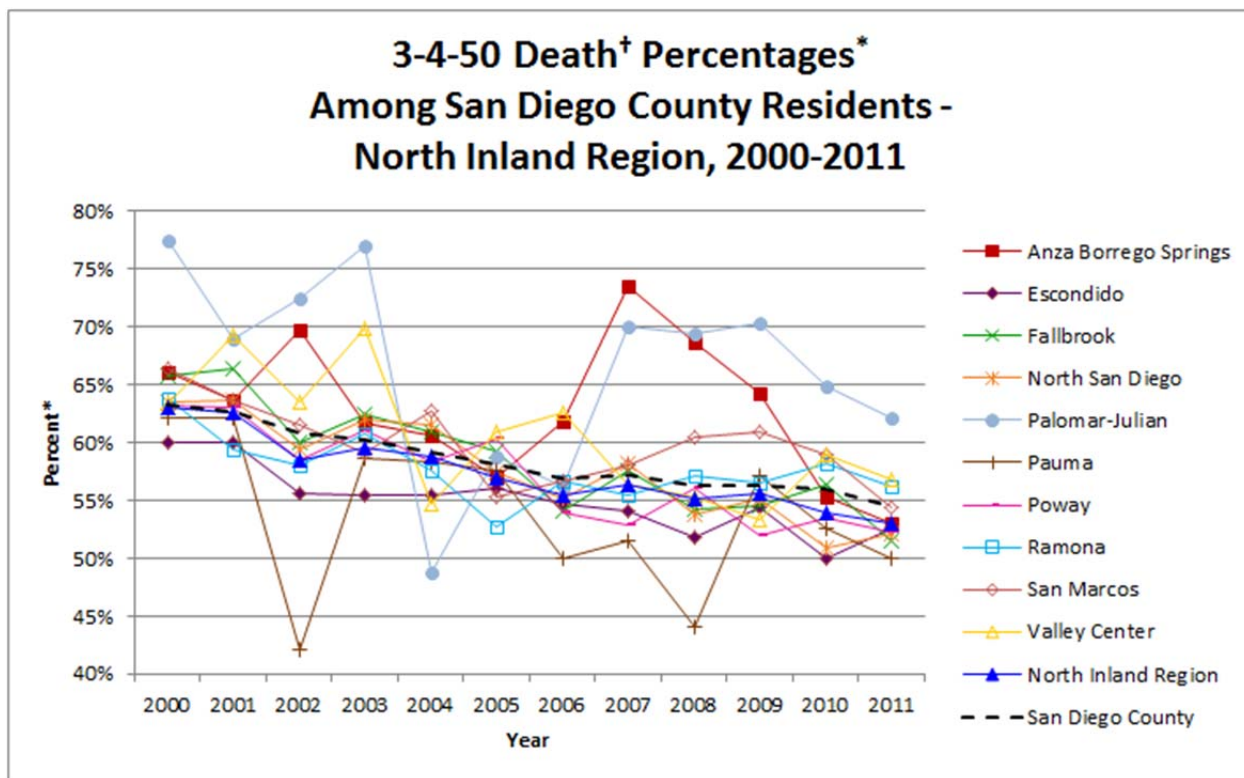
<sup>a</sup>Deaths with unknown Region or SRA are reflected in the county total, but not in the individual categories. Category sums may not add up to county total.

<sup>†</sup> 3-4-50 Deaths include Stroke, Coronary Heart Disease (CHD), Diabetes, COPD, Asthma, and Cancer.

<sup>§</sup> Rates and Percentages not calculated for fewer than 5 events. Rates not calculated in cases where zip code is unknown.

Source: Death Statistical Master Files (CA DPH), County of San Diego, Health & Human Services Agency, Epidemiology & Immunization Services Branch; SANDAG, Current Population Estimates, 10/2012.

Prepared by County of San Diego (CoSD), Health & Human Services Agency (HHSA), Community Health Statistics, 09/24/2013.



\*3-4-50 deaths as a percentage of all cause deaths.

<sup>†</sup>3-4-50 Deaths include Stroke, Coronary Heart Disease (CHD), Diabetes, COPD, Asthma, and Cancer.

§Percents not calculated for fewer than 5 events. Percents not calculated in cases where zip code is unknown.

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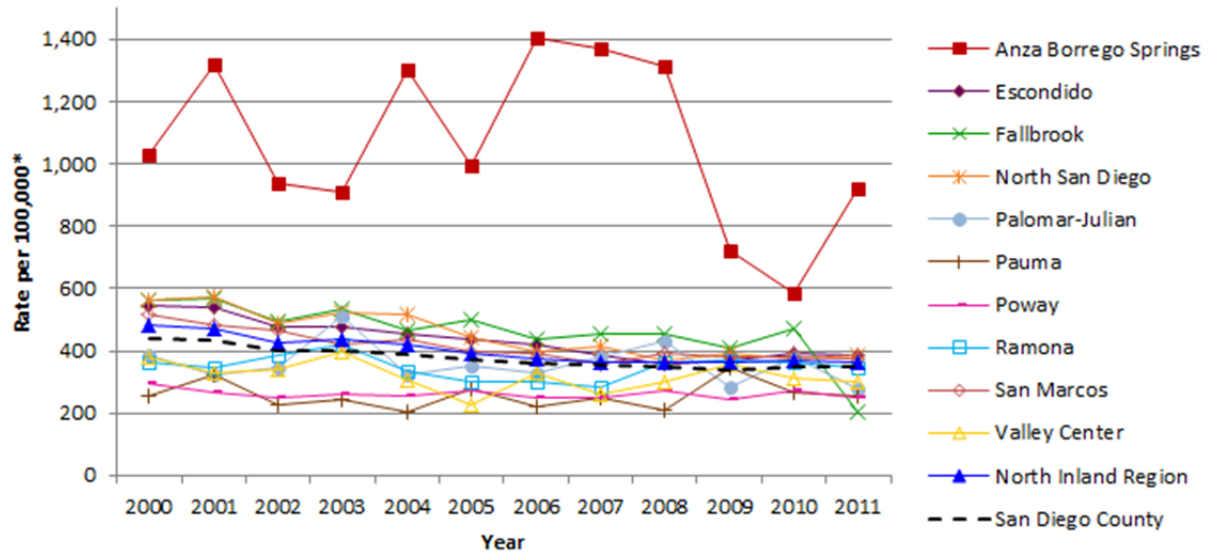
Source: Death Statistical Master Files (CA DPH), County of San Diego, Health & Human Services Agency, Epidemiology & Immunization Branch: SANDAG, Current Population Estimates, 10/2012.

Prepared by County of San Diego (CoSD), Health & Human Services Agency (HHSA), Community Health Statistics, 10/2/2013.

#### 3-4-50 in the North Inland Region:

- Overall, the percentage of deaths due to 3-4-50 chronic disease decreased in the North Inland Region and its Subregional Areas (SRAs) from 2000 – 2011.
- Compared to the county, the North Inland Region had slightly lower percentages of deaths due to 3-4-50 chronic disease in every year from 2000 – 2011.
- Among the North Inland Region SRAs, Palomar-Julian had the highest percentage of deaths due to 3-4-50 chronic disease in 2000. In 2011, Palomar-Julian also had the highest percentage of deaths due to 3-4-50 chronic disease.
- Among the North Inland Region SRAs, Escondido had the lowest percentage of deaths due to 3-4-50 chronic disease in 2000. Pauma had the lowest percentages of deaths due to 3-4-50 chronic disease in 2011.

### 3-4-50 Death<sup>†</sup> Rates Among San Diego County Residents - North Inland Region, 2000-2011



\*3-4-50 deaths as a percentage of all cause deaths.

†3-4-50 Deaths include Stroke, Coronary Heart Disease (CHD), Diabetes, COPD, Asthma, and Cancer.

§Rates not calculated for fewer than 5 events. Percents not calculated in cases where zip code is unknown.

#Rates not shown due to fewer than 5 events.

Source: Death Statistical Master Files (CAPH), County of San Diego, Health & Human Services Agency, Epidemiology & Immunization Branch: SANDAG, Current Population Estimates, 10/2012.

Prepared by County of San Diego (CoSD), Health & Human Services Agency (HHS), Community Health Statistics, 10/2/2013.

#### 3-4-50 in the North Inland Region:

- Overall, the 3-4-50 chronic disease death rate decreased in the North Inland Region and its SRAs from 2000 – 2011.
- Among the North Inland Region SRAs, Anza-Borrego Springs had the highest 3-4-50 chronic disease death rates in every year from 2000-2011.
- Among the North Inland Region SRAs, Poway and Pauma tended to have the lowest 3-4-50 chronic disease death rates from 2000 – 2011.